



Second success

JSC's Open House visitors brave weather, praise employees and space program. Photos on Page 3.



High-tech help

High-tech information from NASA aircraft assists California firefighters control wildfires. Story on Page 4.

Space News Roundup

Vol. 35

September 6, 1996

No. 35

Station modules pass pressure tests

Node 1, U.S. laboratory module accomplish structural milestone

The first U.S. component of the International Space Station, Node 1, and the U.S. laboratory module successfully completed proof pressure tests last week.

Engineers for NASA's prime space station contractor, Boeing, conducted the proof pressure test on Node 1 at NASA's Marshall Space Flight Center in Huntsville, Ala., last Wednesday. During the four-hour test, the node was successfully pressurized to 22.8 pounds per square inch gauge, or 1.5 times the normal maximum operating pressure of the International Space Station pressurized elements.

A structural design modification

that has been incorporated into the node substantially reduced the stress levels previously encountered in the radial port low wall gussets.

Node 1, the first U.S.-built space station component, is scheduled to be launched in December 1997. The nodes serve as connecting passageways to other modules on the International Space Station.

With the proof pressure test now completed, Node 1 will be moved out of the test facility and returned to the space station manufacturing building at MSFC, where it will be prepared for assembly and check-out activities that begin in mid-October.

The Sunday before the Node 1 test, the U.S. laboratory module also successfully completed its proof pressure test. Like the Node 1, the lab module was pressurized to 22.8 PSIG, or one and a half times its normal maximum on-orbit operating pressure requirement. Data analysis indicated the module had excellent performance during the pressure test.

Having completed proof pressure tests, the lab's welds now are being inspected. The lab will undergo leak tests in mid-September. It will then be moved back to the space station manufacturing building in late September.

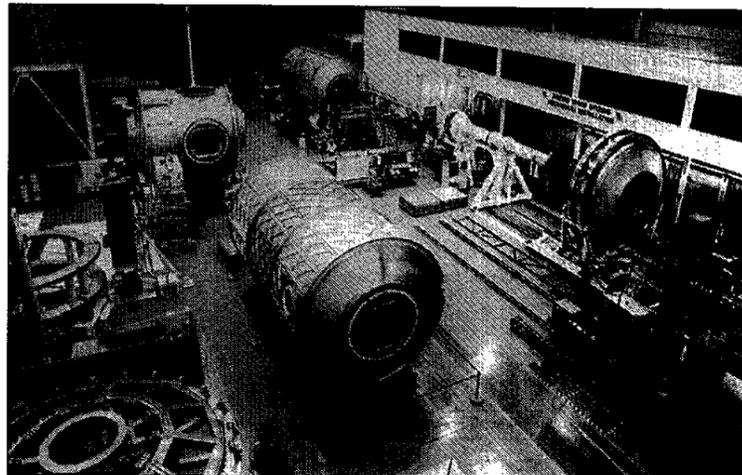


Photo by Boeing Defense & Space Group

The United States modules for the International Space Station sit side-by-side in the Boeing space station manufacturing facility at Marshall Space Flight Center. Clockwise from foreground are the U.S. habitat module, Node 1, the U.S. laboratory module, and the airlock.

Lucid's flight to set record for females

By Natasha Calder

Cosmonaut Researcher Shannon Lucid, aboard the Mir space station, will break the space endurance record for a female tomorrow.

Now in her 23rd week aboard the Russian station, Lucid will mark her 169th day in space Saturday, surpassing Russian Cosmonaut Elena Kondakova's record for the length of time a female has spent in space on a single flight.

Kondakova is now at JSC, training for an STS-84 shuttle flight.

Earlier, Lucid said good-bye to Commander Yuri Onufrienko and Flight Engineer Yuri Usachev, who returned to Earth on Monday with French Researcher Claudie Andre-Deshays, leaving Mir 22 Commander Valery Korzun and Flight Engineer Alexander Kaleri in command of Mir.

Lucid will remain on Mir with the Mir 22 crew, awaiting the arrival of *Atlantis*, tentatively scheduled to launch the week of Sept. 16. *Atlantis* will carry Astronaut John Blaha to Mir to relieve Lucid, who has been spending the remainder of her time on the station wrapping up her experiments and packing her bags for her upcoming departure. In addition, Lucid is performing a detailed inventory of U.S. scientific equipment and supplies on Mir in preparation for her handover to Blaha.

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LUCID

National Aeronautics and Space Administration
Lyndon B. Johnson Space Center
 2101 NASA Road 1
 Houston, Texas 77058-3696



Reply to Attn of: AA

JSC OPEN HOUSE—SUCCESSFUL A SECOND TIME AROUND!

Dear Fellow Employees:

From all accounts the second JSC Open House was even better than the first. Although the weather may have kept some away, more than 20 thousand of our friends and neighbors came out to have a look into the future and to see what we are doing here in our facilities, both onsite and off, to make it happen. Many commented that there was more to see and do, this year, and some even suggested that we make next year's Open House a two-day event!

These kinds of comments are the direct reflection on the hard work and enthusiasm of our dedicated volunteer team. Many of you volunteered long hours, sometimes in uncomfortably hot, humid conditions. Even more of you spent days and weeks planning and coordinating tours, briefings and demonstrations.

In the end, not only did you do an outstanding job of displaying the facilities and capabilities of our Center, you admirably demonstrated our most valuable resource—our people and the "can-do" spirit that has been the hallmark of our program and our great accomplishments and successes in space.

Congratulations. You are all to be commended for a job well done!

George W. S. Abbey
 George W. S. Abbey
 Director

JSC Director George Abbey issued the above open letter to all employees this week following the successful Aug. 24 open house. Cloud cover and the potential for thunderstorms kept away some visitors who were coming to participate in Space Center Houston's Ballunar Liffoff Festival, but the mostly indoor JSC Open House activities were well attended.

Fran forces Atlantis to seek cover

Kennedy Space Center workers rolled the Space Shuttle *Atlantis* back to the Vehicle Assembly Bldg. early Wednesday as a hedge against potentially damaging wind and rain from Hurricane Fran, which was barreling toward the Eastern seaboard.

As a result, the planned Sept. 14 launch of STS-79 will be delayed, tentatively until the week of Sept. 16. The length of the delay will depend on the timing of the hurricane's landfall and dissipation. *Atlantis* was safely inside the VAB by 11 a.m. CDT Wednesday. Mission managers had given the order earlier in the week to make nearly all preparations for rollback.

Landfall of Hurricane Fran was expected Thursday or Friday, somewhere between Florida and the Carolinas.

STS-79 Commander Bill Readdy, Pilot Terry Wilcutt, and Mission Specialists Jay Apt, Tom Akers, Carl Walz, and John Blaha are ready to begin their mission that will see a fourth docking of the shuttle with the Russian Mir Space Station. Blaha is scheduled to replace U.S. Astronaut Shannon Lucid aboard Mir to begin a four-and-a-half-month tour of duty. During the mission, *Atlantis'* astronauts, together with their Mir counterparts, will focus on microgravity and life science experiments on the first flight of the Spacehab double module. The large science module will provide more room for experiments and supplies for the Mir-22 crew.

Meanwhile, preparations for the next shuttle launch, that of *Columbia* about Oct. 31, continued on schedule. The STS-80 crew will spend 16 days in orbit to deploy and retrieve the ORFEUS-SPAS astronomy satellite and fly for a third time the Wake Shield Facility.

Mechanical work on *Discovery* continued in anticipation of February's second Hubble Space Telescope servicing mission.



ATLANTIS

Rewards target safety awareness

As JSC prepares itself for another full-day shutdown for safety—the 1996 Safety and Total Health Day—several new employee recognition items are being made available to JSC supervisors, facility managers and organization safety committees.

The award items, including golf caps, six-pack coolers, pocket tape measures, koozies and key chain lights, have been purchased by the Human Resources Awards Office and are being distributed to organizations this month.

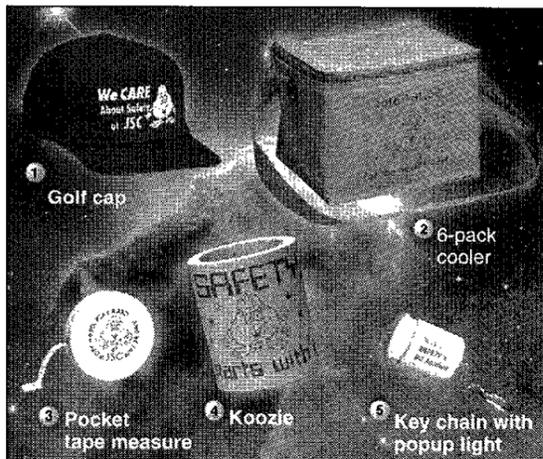
The items are intended for presentation to employees demonstrating personal ownership to ensure the center maintains a safe work place. Examples of this might be identifying a safety issue and following through to eliminate the issue, taking time to remove safety hazards in the office or shop area, or consistently using the proper tools with the

proper personal protection equipment in daily work activities. Administrative officers will be provided with a small supply of awards and award flyers. Employees will be able to choose from the available items by completing and returning a tear-off slip.

The Awards Office is encouraging employee feedback on the pilot program so that it may be evaluated for continuation past the end of the supply of the initial items.

Employees with suggestions may submit them to Helen Harris via e-mail at hharris@gp301.jsc.nasa.gov

This year's Safety and Total Health Day will be Oct. 23, and each JSC organization will be putting together a program designed to emphasize the importance of safety and health in the JSC workplace and help employees internalize the safety ethic year-round.



The award items, including golf caps, six-pack coolers, pocket tape measures, koozies and key chain lights, can be used to recognize employee participation.

Survey seeks candid responses throughout NASA

Many JSC employees began receiving NASA's 1996 agency-wide Employee and Customer Satisfaction Survey this week, and NASA Headquarters is asking that all completed surveys be returned by Sept. 10.

This survey, similar to the one conducted in 1995, will provide for randomly selected agency employees, at all levels of the organization, to make known their collective views on many topics of importance within NASA.

The results will be used to promote fuller and more complete communication. Please see SURVEY, Page 4

JSC

Ticket Window

The following discount tickets are available for purchase in the Bldg. 11 Exchange Store from 10 a.m.-2 p.m. Monday-Thursday and 9 a.m.-3 p.m. Friday. For more information, call x35350 or x30990.

Entertainment '97 books: Cost is \$25.

"Ceremonies in Dark Old Men": Drama at 8 p.m. Oct. 5 at the Mid Town Art Center. Tickets are on sale until Sept. 13 and cost \$15.

EAA Belize Resort Trip: Available Sept. 1-Dec. 15, \$472 double occupancy, \$100 deposit required, final payment due 30 days before departure.

EAA Caribbean Getaway Cruise to Puerto Rico: Jan. 3-13, \$1198 double occupancy with airfare, \$999 cruise only, deposit due by Sept. 5, final payment due Nov. 4.

Sam Houston Race Park Track Pack: \$10 value pack for \$5.25, includes Club Level seating, program, tip sheet, admission, preferred parking and gift shop discount.

Splashedown: One day pass cost \$14.25.

Schitterbahn: One day pass cost \$19.75 for adults, \$16.95 for children.

Astroworld: One day pass cost \$22.75, two day pass cost \$34.25.

Fiesta Texas: One day pass cost \$22.75, two day pass cost \$34.25.

Six Flags at Arlington: One day pass cost \$22.75, two day pass cost \$34.25.

Sea World: Adult tickets cost \$24.50, children (3-11) cost \$17.25.

Space Center Houston: Discount tickets, adult, \$8.75; children (4-11), \$6.25, annual membership, \$22.95, family membership, \$59.95.

Movie discounts: General Cinema, \$4.75; AMC Theater, \$4.50; Sony Loew's Theater, \$4.75.

Stamps: Book of 20, \$6.40.

Metro tickets: Passes, books and single tickets available.

JSC

Gilruth Center News

Sign up policy: All classes and athletic activities are first come, first served. Sign up in person at the Gilruth Center and show a NASA badge or yellow EAA dependent badge. Classes tend to fill up two weeks in advance. Payment must be made in full, in exact change or by check, at the time of registration. No registration will be taken by telephone. For more information, call x30304.

EAA badges: Dependents and spouses may apply for photo identification badges from 7:30 a.m.-9 p.m. Monday-Friday; and 8 a.m.-4 p.m. Saturdays. Cost is \$5. Dependents must be between 16 and 23 years old.

Defensive driving: One day course is offered once a month. Cost is \$25.

Stamp club: Meets at 7 p.m. every 2nd and 4th Monday in Rm. 216.

Women's self defense: Martial Arts training for women only from 5-6 p.m. Tuesdays and Wednesdays. Cost is \$35 a month.

Weight safety: Required courses for employees wishing to use the weight room is offered from 8-9:30 p.m. Sept. 12. Pre-registration is required. Cost is \$5.

Exercise: Low-impact class meets from 5:15-6:15 p.m. Mondays and Wednesdays.

Aikido: Martial arts class meets from 6:15-7:15 p.m. Tuesday and Wednesday. Cost is \$35 per month. New classes begin the first of each month.

Aerobics: Classes meet every Monday, Tuesday and Thursday.

Ballroom dancing: Cost is \$60 per couple. For additional information call the Gilruth Center at x33345.

Country and Western dancing: Beginner class meets 7-8:30 p.m. Monday. Advance class meets 8:30-10 p.m. Monday. Cost is \$20 per couple.

Fitness program: Health Related Fitness Program includes a medical examination screening and a 12-week individually prescribed exercise program. For more information, call Larry Wier at x30301.

JSC

Swap Shop

Swap Shop ads are accepted from current and retired NASA civil service employees and on-site contractor employees. Each ad must be submitted on a separate full-sized, revised JSC Form 1452. Deadline is 5 p.m. every Friday, two weeks before the desired date of publication. Ads may be run only once. Send ads to Roundup Swap Shop, Code AP2, or deliver them to the deposit box outside Rm. 181 in Bldg. 2. No phone or fax ads accepted.

Property

Sale/Lease: Brook Forest, 4-2-2, 2348 sq ft, new carpet/tile, remodeled kitchen, middle atrium open to outside. Brian, 480-4351.

Sale: Bay Forest, custom home, energy efficient, 3BDR, den, LV/DR, wet bar, island kitchen, pool, by owner, \$204.5k. 488-3468.

Rent: El Dorado Trace, 2-2, balcony FPL, alarm, W/D incl, pools/sauna, \$575 mo. 333-8126 or 488-0621.

Lease: Wooded lot 90' x 135', Taylor Lake Estates, can finance, must sell, \$39.5k obo. Don, x38039 or 333-1751.

Rent: Friendswood/Clear Lake area, 3-2-2, brick, FPL, gas, hi-ceilings, \$625 mo + \$625 dep. 333-4743 or 922-5447.

Sale: League City, 3-2-2D, brick, both formals, new paint, ~2100 sq ft, no MUD taxes, by owner, \$80k. 480-6275 or 554-5261.

Lease: Clear Lake Oakbrook, 4-2-5-2D, ~2100 sq ft, formals, family room, ceiling fans, \$1,150 mo. Jack H. Cohen, 488-3171.

Lease: CLC, Baywind II, Taylorcrest, 1BDR condo, kitchen appliances, ceiling fans, A/C, W/D, FPL, private parking space, no pets, \$395 mo. 488-5019.

Sale: Taylorcrest condo, 2-2, FPL, wet bar, new A/C & refrigerator, recently remodeled, \$34.9k. 338-2446.

Lease: El Ago, 3-2-2, 1900 sq ft, FPL, fenced, no pets, \$950 mo, 1 yr lease. 474-3473.

Lease: Clear Lake Forest, on Forest Lake, 1 ac, pool, 4-5, office, appliances, furnished, 4400 sq ft, dock. Jerry, 244-8913.

Sale: Cloisters condo, 1-1 w/study, gates, alarms, French doors, \$43.5k. 244-7486.

Sale/Trade: Heavy wooded lot, .5 ac, Sam Rayburn Lake, 2 camper lots at Lake Livingston. Dave Ayoub, x37756.

Sale: Boat slip on CL w/roof & motorized boat hoist for power boats, \$7.5k. 474-4922.

Rent: Beach house, Crystal Beach, Galveston County, sleeps 10, furnished, cable TV, ocean view, wkly/wknd rates. 486-1888.

Rent: Beach house, West Galveston, Jamaica Beach, sleeps 7, wknd/wkly rates. 488-6796.

Cars & Trucks

'87 Bronco II, bronze, luggage rack, new battery, 1 owner, good cond, \$4.3k. 332-6941.

'92 Honda Accord LX, auto, 2 dr, loaded/all options, white, ex cond, 72k mi, \$9.5k. 332-5041.

'86 VW Quantum, 5 cyl, auto, P/W & P/L, A/C, 4 dr, cruise, new tires, silver, sunroof, \$3k obo.

Mike, 280-2565.

'85 Mazda RX7 GSL, white/red leather, must sell, \$2.6 obo. Collene, 480-5430.

'54 Chevy PU street rod on '79 Chevy chassis w/454 custom inter, racing rims, many extras, \$4.5k. 409-938-7328.

'89 Eagle Premier ex cond, leather inter, loaded, P/W & P/L, A/C, \$3.2k firm. 332-8468 or 482-9177.

'92 Ford Ranger XLT, 50k mi, red w/re interior, alarm, A/C, spd, 4 cyl, short bed, AM/FM/cass, bed liner, ext warranty, \$6.5k. x32470 or 996-8335.

'70 Mustang Mach I, Hi-Po 351 aqua blue/new carpet, \$3.7k. 282-6992 or 282-2045.

'81 Ford Mustang, 6 cyl, 3.0L, good work/school car. Walter, x37332 or 534-2358.

'88 Mazda MX-6 GT Turbo, 72k mi, loaded, power moonroof, P/L & P/W, A/C, auto, ex cond, \$5.5. Steve, 480-6415.

'92 Pontiac Bonneville SSE, white w/gray leather, loaded, \$14k. 333-7761 or 482-8224.

'90 Toyota Xtracab SR5, 4x4, 5 spd, ex cond, loaded, plus cap, \$11.5k. 333-6892 or 482-8224.

'89 F-150 XLT Lariat supercab, loaded, ex cond, \$7.5 obo. Rusty, 212-1450 or Linda, x36519.

'93 Chevy Sierra C-1500, extended cab, long bed w/liner, 350 V8, P/S & P/B, tilt/cruise, A/C, maroon, nice truck. Les, x30090 or 331-5951.

'94 Pontiac Grand AM GT HO, \$9.5k. David, x30299 or 484-3433.

'85 Nissan Sentra, 2 dr, 5 spd, A/C, AM/FM/cass, 1 owner, ex cond, \$2k. Eric, x31917.

'50 Chevrolet 3/4 ton truck, \$2.2k. 286-5971.

'81 Plymouth Horizon, 2.2L4, auto, 140k mi, new brake job, rebuilt engine, runs. \$500. Paul, x45353 or 339-0003.

'77 Tloga class C RV, 24', new tires/brakes/ carpet & drapes, extensive tune-up, \$5.5k. Karen, x38784 or 291-9100.

'83 Dodge RAM van, dependable, full sz, custom inter, no A/C, \$1.4k. Ken, x31496 or 286-7583.

Boats & Planes

'95 Yamaha Wave Raider 1100 w/trailer, less than 60 hrs, ex cond, \$5.7k. Steve, 750-8876 or 992-9398.

'85 Chaparral 178, 140 MercCruiser, garage kept, \$4.5k. David, x30299 or 484-3433.

Cycles

'78 Honda Hawk, very low mi, best offer. x33948.

Audio Visual & Computers

Bel Quantum 3SE 3 band radar detector & Audiovox car phone, model SP85, mounts in car, \$25 ea. 332-2039.

Robots w/ Programmable, 14' height; Remote Control Features, \$35 ea. 332-8444.

Mac Performa 450, 25MHz, 4 Mb RAM, 512 Mb HD, 14" color monitor, keyboard, 1.4 FD, complete documentation, ex cond, \$600. 244-1791 or 488-1326.

Portable HD w/batteries, \$350; 1 Gb SCSI HD,

Today

Cafeteria menu: Special: baked meatloaf. Total Health: baked potato. Entrees: chicken fajitas, ham steak, pork and beef eggrolls, steamed fish, Reuben sandwich. Soup: seafood gumbo. Vegetables: stewed tomatoes, seasoned spinach, cut corn, macaroni and cheese.

Monday

Running club meets: The Bay Area Running Club will meet at 6:30 p.m. Sept. 9 at Challenger Park for a three-mile run, followed by a meeting at 7:30 p.m. Sherry Granader of World's Gym will discuss nutrition and healthy eating. For details call Mark Anderson at x30909.

Cafeteria menu: Special: Italian cutlet. Total Health: roast beef au jus. Entrees: chicken a la king, enchiladas with chili, vegetable lasagna, steamed pollock, French dip sandwich. Soup: split pea and ham. Vegetables: Brussels sprouts, oriental vegetables, buttered carrots, lima beans.

Tuesday

BAAC meets: The Bay Area Aero Club will meet at 7 p.m. Sept. 10 at the Houston Gulf Airport in League City. For more information call Jerry Adair at x38058.

Cafeteria menu: Special: stuffed cabbage rolls. Total Health: roasted turkey. Entrees: turkey and dressing, country style steak and hash browns, beef ravioli, baked chicken, fried cod fish. Soup: tomato Florentine. Vegetables: Italian blend, okra and tomatoes, corn cobbette, navy beans.

Wednesday

Toastmasters meet: The SpaceLand Toastmasters will meet at 7 a.m. Sept. 11 at the House of Prayer Lutheran Church. For more informa-

tion call Jeannette Kirinich x45752.

MAES meets: The Society of Mexican American Engineers and Scientists will meet at 11:30 a.m. Sept. 11 in the Bldg. 3 Cafeteria executive dining room. For more information call Michael Ruiz at x38169.

Astronomy seminar: The JSC Astronomy Seminar will meet at noon Sept. 11 in Bldg. 31, Rm. 129. An open discussion meeting is planned. For more information call Al Jackson at x35037.

Reservations due: Reservations are due Sept. 11 for the Clear Lake/NASA Area Chapter of Professional Secretaries International's end of summer social and BBQ at 6:30 p.m. Sept. 13 at Pirate's Landing Clubhouse, 2727 NASA Road 1. Cost is \$16 per person. For details call Juanita Woodfox at 286-3346.

Cafeteria menu: Special: pepper steak. Total Health: stir fry pork with rice. Entrees: liver and onions, stir-fry pork with rice, steamed fish, western special, Reuben sandwich. Vegetables: steamed broccoli, yellow squash, macaroni and cheese, vegetable sticks.

Thursday

Airplane club meets: The Radio Control Airplane Club will meet at 7:30 p.m. Sept. 12 at the Clear Lake Park Community Bldg. For details call Bill Langdoc at x35970.

Cafeteria menu: Special: chicken fried steak. Total Health: baked potato. Entrees: beef tacos, steamed pollock, baked chicken, catfish special. Soup: navy bean. Vegetables: spinach, cut corn, breaded okra, pinto beans.

Friday

Astronomers meet: The JSC Astronomical Society will meet at 7:30 p.m. Sept. 13 at the Lunar &

Planetary Institute, 3600 Bay Area Blvd. For more information call Chuck Shaw at x35416.

Cafeteria menu: Special: tuna noodle casserole. Total Health: baked potato. Entrees: steamed salmon steak, baked chicken, fried cod fish, ham steak. Soup: seafood gumbo. Vegetables: French cut green beans, cauliflower with cheese, green peas, black-eyed peas.

Sept. 18

Scuba club meets: The Lunar-fins will meet at 7:30 p.m. Sept. 18 at Redfish Restaurant under the Kemah/Seabrook Bridge, Seabrook Side. For more information call Fred Toole at x33201.

Sept. 19

Directors meet: The Space Family Education Board of Directors will meet at 11:30 a.m. Sept. 19 in Bldg. 45, Rm. 712D. For more information on this open meeting call Gretchen Thomas at x37664.

Sept. 26

Radio club meets: The JSC Amateur Radio Club will meet at noon Sept. 26 in Bldg. 16, Rm. 253. The meeting will include officer elections. For more information call Larry Dietrich x39198.

PMA workshop: The Performance Management Association, Houston chapter, will host a luncheon workshop on the Implementation of an Earned Value Management System at 11:15 a.m. Sept. 26 at the Ramada Inn on NASA Road 1. The discussion will focus on "Data Accumulation, Analysis and Reporting." Registration is due by Sept. 20. Cost is \$13 and includes lunch. For more information call Susan Widmer at x34299.

\$150; PLI 40 turbo 44 Mb cartridge player, \$150 + 21 44 Mb cartridges, \$20 ea; Compaq Prosignia PC server 486/66 12 Mb RAM & 240 Mb HD w/keyboard, \$1.4k; Fujitsu Scan Partner hi spd scanner, \$900. x32920.

486 DX-33, 8 Mb RAM, CD ROM, 14.4 modem, .28 monitor, hand-held scanner, \$600. Brandi, x34713 or 480-6458.

Macintosh Power Book 520C multimedia portable computer w/12 Mb RAM, 240 Mb HD, carrying case, ex cond, manuals, \$1.6k obo; add'l S/W avail: Compaq Desk Pro/i 486 4 Mb RAM/240 MB HD w/many interface cards, screen & keyboard, \$750. x32920.

DX2-66 & DX4-100, 8 Mb/850 Mb, mini tower, 14" mon, \$675/\$745; Pentium 75/100/ 133/166/ 16 Mb/850 Mb, 14" mon, \$899/969/ 1089/1249, all have Win 3.11 or Win '95+ Office, extra S/W. Don, 333-1751.

External modem from Practical Peripheral, 28.8k, \$1.3k. David, 484-1779.

Musical Instruments

Normandy 4D clarinet, black, wood, \$325 obo. Bobby, x37768 or 991-2396.

Pets & Livestock

Female cat, 1 yr old. x38603 or 332-1354. Free Lop Ear rabbit, black/white w/cage. Susan, 286-4952.

Household

Upright freezer, ex cond, \$100; solid mahogany entry door w/leaded glass, hand-crafted, new \$1.5k sell, \$750. 332-8468 or 482-9177.

Off white sofa, good cond, 1 yr old, \$300. Karf, 282-9366.

Cargo couch, chair & ottoman, \$575; Cargo rocking g chair, \$75. 286-0022.

Kenmore electric dryer, white works good, \$65. 332-3168.

Two commercial sewing machines, 1 Juki straight stitch, \$600; 1 Juki 5 thread Serger, \$800. 484-0752.

Spanish oak armoire w/twin bed, no mattresses; beveled mirror door, 8'8", \$3k obo. 286-5708.

Bedroom set, full sz, antique green w/dresser, 5 drawer chest & 2 night stands, Italian design, great cond, \$950. Magdi Yassa, 333-4760 or 486-0788.

Antique bathtub, white, 5', \$5k. Rick, x47373.

Entertainment center, wood contemporary, whitewash finish, 2'x4'6", accommodates, 30" TV, drawers/trays, smoked doors, ex cond, \$225. Gus, x33425 or 286-3402.

Queen size waterbed, semi-motionless, book shelf headboard, \$50. 326-6228.

Light beige couch, ex cond, converts into a sleeper, \$250 obo. x31057.

Futon/full size bed w/oak frame, mattress, decorator cover, \$100. 332-7335.

Wanted

Want house mate, Seabrook, free rent in exchange for babysitting 4 nights a week, references required. 286-7583.

Want non-smoking roommates to share 3-2-2, Webster, \$340 includes all utilities except phone, prefer students. 332-8417.

Want professional non-smoking male roommate to share 2-2 townhouse, Pearland, \$350 + 1/2 utilities. John, 997-8796.

Want immaculate, considerate, non-smoking house mate to share 3-2, Sagemont, no pets 7 children, #385 mo + 1/2 utilities not including phone, \$400 dep. Diane, x47129.

Want roommate, large 4-2-2, Seabrook, separate loft/living area & phone, cable/fax, W/D, \$375. Want Waverunner w/mechanical problems. Ken, x31496 or 296-7583.

Want house mate, non-smoking, 3-2-2, League City, no pets, reference required, all utilities except phone, \$380 mo + \$250 deposit. 332-6941.

Want personnel to join VPSI vanpool departing MeyerLand Park and Ride lot at 7:05 a.m. for JSC. Vanpool consist of on-site personnel working the 8 a.m./4:30 p.m. shift. Don Pipkins, x35346.

Want personnel to join VPSI vanpool, departing South Braswood Park & Ride lot at 6:50 a.m. for JSC & offsite locations 7:30 - 4:30 shift, Susan Gaynor, 282-5447 or Al Ruder, x34997.

Want Champion jewelry. 474-4922.

Want Barbie doll sewing patterns, new or old. 332-3168.

Want motorized treadmill in good condition; also need 8 or 10" electric hand saw & table saw in working condition. Steve, 992-7049.

Want low priced school/work car or truck, prefer Japanese. 271-7011.

Want early '90 Honda Accord EX or LX, light color, preferably low mileage. 282-5213.

Want non-working mower, edger. x31883.

Want space memorabilia for private collection, flown items, eg. utensils/clothing; autographs on photos, covers, letters - relating to Mercury, Gemini, Apollo, Skylab, Shuttle. Richard or Nancy, 481-8080.

Miscellaneous

Self propelled mower. \$75; golf caddie, \$10. x31883.

Motor guide "Brute" trolling motor, '91 model, 42 lbs, thrust, 12/24 volt, variable speed, foot control, good cond, \$150. x34565 or 333-6415.

Various pieces of Tupperware; king size brown to tan comforter/bedspread, \$20; ladies brown leather jacket, sz 8/10, \$10; yellow vinyl bean bag, \$15. 480-3424.

White beaded Victorian wedding dress sz 7, veil, fitted v-back w/drop pearls & long bustled train w/cutouts, \$400. Leah, x34544 or 326-3759.

Winchester pre-64 model 70 30.06 target rifle, \$1250; 2 Winchester model 75T target rifles, \$350 ea or \$650 both. 532-3013.

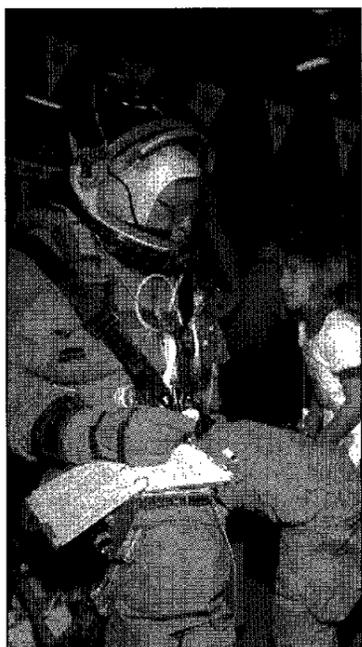
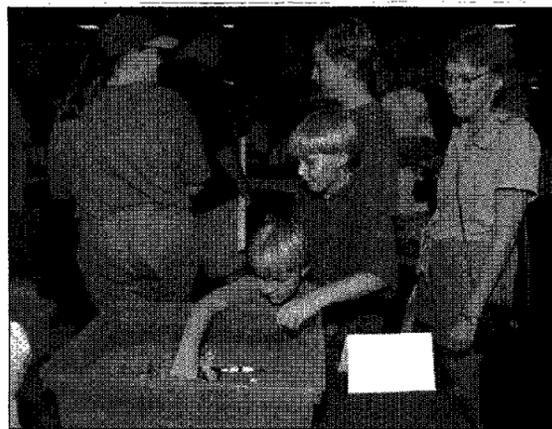
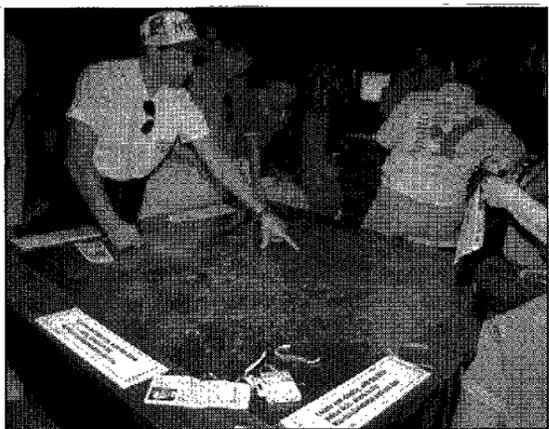
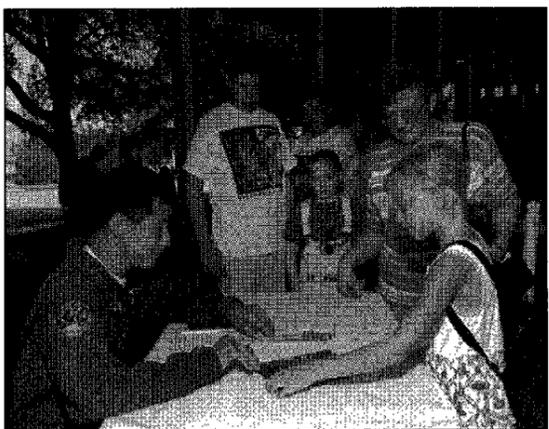
'72 Pop-up camper, sleeps 6, new tent material, good cond, \$750. 484-8890.

Six drawer oak dresser w/mirror, \$200; men's single speed bike, \$30; Sears hand telescope, \$20; wicker bookcase, \$50; blue fabric corner table

with glass top, \$10; Pack-in-Play pen, \$50; yellow lamp, \$5; Dodge AM/FM radio, \$5; snow chains, 14" tires, \$5. 332

Open House

JSC opens doors, rolls out red carpet for public



While the weather may have kept large crowds away from JSC's Open House, the visitors who did brave the weather praised JSC employees and the space program.

The second annual JSC Open House is history and, according to some visitors, an event that must continue.

"This was a great family outing," said a visitor from The Woodlands. "Our three kids, ages 4 through 9, loved it. I hope you continue with open houses.

We are new to the area and our 7 year old has decided he will definitely be an astronaut. A mom can not complain about that."

More than 20,000 visitors were given the opportunity to explore 18 buildings on site, Ellington Field and the Sonny Carter Training Facility. During the open house, visitors could run their fingers through simulated Martian soil in Bldg. 11 or hop in a T-38 cockpit trainer for a photo session at Ellington Field.

"This was wonderful," said a visitor from Angleton. "We thought it would be an educational experience for our son, but it turned into one for us as well. Thanks."

Not only did Houston residents benefit from the open house, visitors from across the country were attracted to the event.

"At 10 p.m. last night, I called the JSC public info line and found out about your open house," said a visitor from Raleigh, North Carolina. "I am an airline employee, so I have

the freedom to decide at 10 p.m. that I will be on an airplane at 6:50 a.m. the next day. Thank you for putting on an event I had to attend. Amazing."

JSC employees received the majority of good marks while other visitors commented on their now expanded understanding of space technology.

"This was a great tour and the enthusiasm of all the employees shows. This has great educational value and a way to get today's kids excited about space as I was growing up in



Houston when we were landing on the moon," said a long-time Houston area resident.

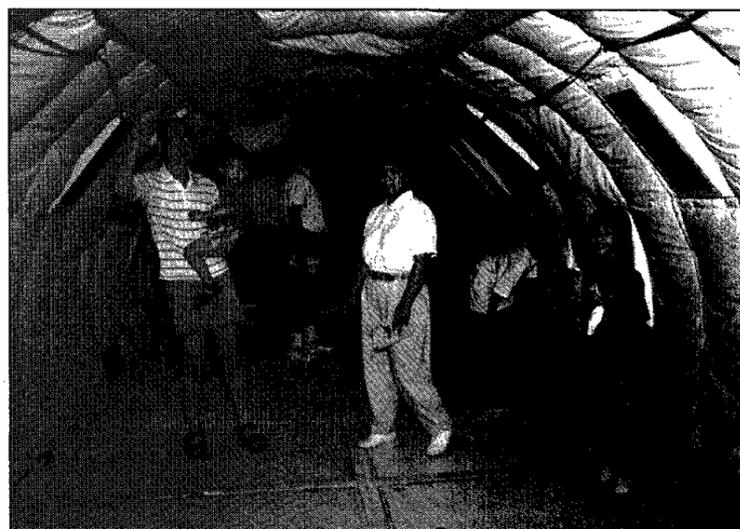
Event Coordinator Kari Fluegel also praised employees efforts.

"This year we were in a very fortunate position to

build upon the success of the open house in 1995," she said. "A lot of people worked very hard to try to make this year's open house better and the guests' response was tremendous. We are very proud of the job everyone did."

The majority of guests who took the time to fill out comment cards said they did learn new things about the space program during the open house and would like to learn more.

"The Open House was fantastic," said a visitor from Hallsville, Texas. "I now have a better understanding of all that is involved in space explorations, incredible teamwork and technology. The volunteers were extremely friendly and helpful. Thank you." □



From top to bottom, left to right: 1) Phil West of the Crew and Thermal Systems Division talks to visitors about EVA suits in Bldg. 32. 2) Astronaut Ed Lu signs autographs in Bldg. 11. 3) From left, Tanya Archer and P.D. Lambert of the Automation, Robotics and Simulation Division operate the air bearing supported chair with thruster controls on the large air bearing floor in Bldg. 9. 4) Mae Mangieri of the Education and Information Services Branch helps a young visitor launch his model rocket. 5) Visitors to Bldg. 2 were able to guess what cities they were seeing from infrared space photographs. 6) A Mars display in Bldg. 11 features simulated Martian soil visitors could touch. 7) Troy Stewart of the Crew and Thermal Systems Division displays a crew escape suit to a young visitor. 8) A highlight of the Ellington Field tour was a chance for a picture pose in a T-38 cockpit trainer. 9) A family takes a tour of the KC-135 at Ellington Field.

JSC Photos

NASA finishes X-34 contract with Orbital Sciences

NASA has completed its contract negotiations with Orbital Sciences Corp. to design, build and test-fly the X-34, a small, reusable technology demonstrator vehicle.

The 30-month contract with the Dulles, Va., firm is valued at approximately \$50 million. An additional \$10 million will be spent by NASA in direct support of X-34 by NASA centers and other government agencies.

NASA selected Orbital Sciences for the X-34 contract in June. The contract with OSC includes two powered flight tests scheduled to begin in the fall of 1998 at the JSC-man-

aged White Sands Missile Range, N.M., that will occur within a period of four months.

The X-34 is a single-engine rocket with short wings and a small tail surface. The vehicle is 58.3 feet long, 27.7 feet wide at wing tip and 11-1/2 feet tall from the bottom of the fuselage to the top of the tail.

The X-34 will be carried aloft and launched from an Orbital Sciences L-1011 aircraft at the White Sands Missile Range. It will complete the initial flights within the White Sands range air space and land at the facility's runway.

The fast-track X-34 program calls for demonstrating a vehicle that will be capable of flying at eight times the speed of sound and reaching an altitude of 250,000 feet. The vehicle will demonstrate low-cost reusability, autonomous landing, subsonic flights through rain, safe abort conditions, and landing in 20-knot cross winds.

NASA may exercise a contract option for up to 25 additional test flights, if required, during a 12-month period beginning immediately after the initial contract is complete. Flights would originate from either

White Sands or Kennedy Space Center. The Florida location would be used to test the X-34's subsonic flight capabilities in weather conditions such as rain, high cross winds and fog.

The X-34 program is one of three within the Reusable Launch Vehicle (RLV) technology program managed by Marshall Space Flight Center. The others are the subsonic Clipper Graham test vehicle and the Mach 15 X-33 advanced technology demonstrator, scheduled to begin flight demonstrations in early 1999. NASA centers and government

installations involved in the X-34 program include the Marshall, which is providing design and development of the vehicle's main propulsion system; Langley Research Center, which is conducting key aerodynamic testing in its wind tunnels; Ames Research Center, which is providing the thermal protection system for the X-34's leading edges and nose cap; JSC, which manages White Sands; the Army's White Sands Missile Range; Holloman Air Force Base, N.M.; and NASA's Dryden Flight Research Center, which is assisting with flight tests.

Equal Opportunity appoints counselors

The Equal Opportunity Programs Office this week announced the appointment of new Equal Opportunity counselors at JSC.

The following employees will serve two-year terms in this collateral duty assignment:

Wanda Hobley, Office of the Chief Information Officer; Linda Riviera, Business and Information Systems Directorate; John Sims, Mission Operations Directorate; Rhonda Moore and Pamela Denkins, Engineering Directorate; Letti Fenner, Center Operations Directorate; Judy White, Space Shuttle Program; John Stanford, Safety, Reliability and Quality Assurance Office; Henry Orosco, Space Station Program Office; James Gooding, Space and Life Sciences Directorate; Milt Heflin, EVA Project Office; and Vernon Brown, White Sands Test Facility.

Employees may contact either the EOPO or any listed counselor to discuss concerns or issues based on sex, disability, age, color, national origin or religion. Counseling is a basic step in the discrimination complaint process and is available to all employees. Employees may request anonymity if they desire.

The counselor's role is to attempt to resolve EEO-related problems at the lowest possible level and in the shortest period of time.

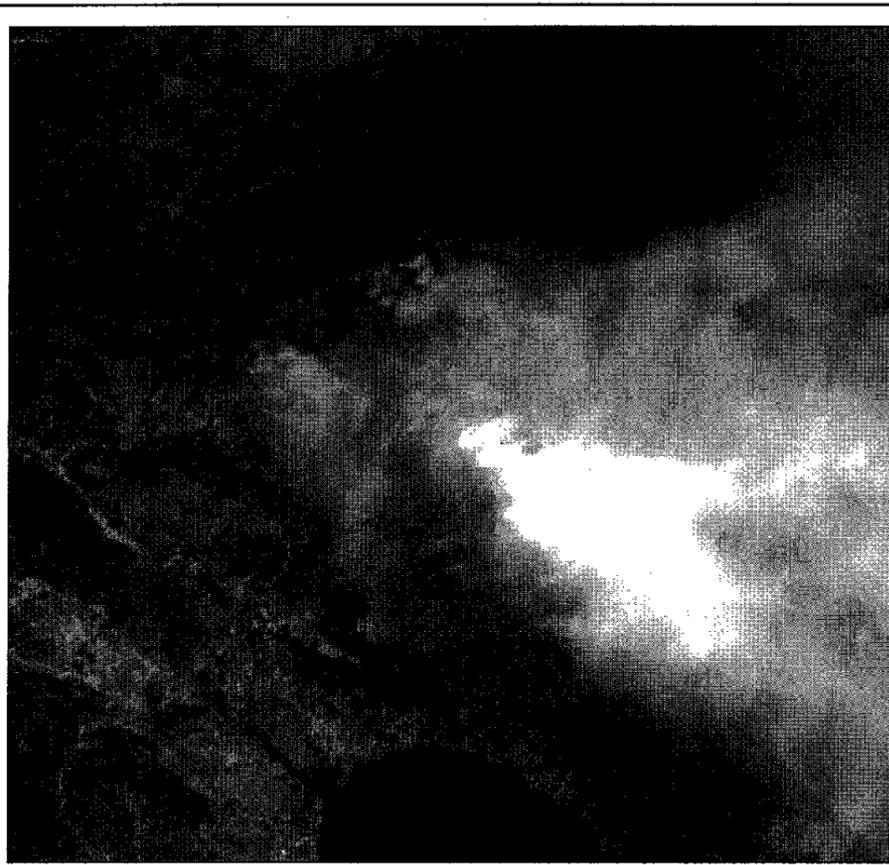
Exchange Council sets membership

The NASA Exchange Council recently announced its membership for the coming year. The Exchange is a government, nonappropriated-fund activity established to provide for services that contribute to the efficiency, welfare and morale of NASA personnel.

The following members of the Exchange Councils are responsible for reviewing the Exchange operations and providing recommendations regarding the policies, organization, scope of activity, rules and business practices, through January 1997:

Chairman, Harvey Hartman; Employee Activities Association President, Virginia Gibson; EAA Executive Vice President, Ann Patterson; EAA Vice President, Athletics, Guy King; Treasurer, John Beall; Secretary, Cynthia Draughon; Operations Manager, Teresa Sullivan; Alternate Manager, Curtis Collins; Legal Adviser, Daniel Remington; and members Debra Johnson, Gloria Demers, James Shannon, Lili Moore, Richard Thorson, Lee Pagel, John Arnold and William Langdoc.

The members of the White Sands Test Facility's NASA Exchange Council are: Chairman, James Powell; Treasurer, David Amidei; Secretary, Plennie Baker; and members Troy Estes and Larry Linley.



A composite image taken from NASA's ER-2 aircraft providing support to forest firefighters shows the smoke plume over an area near Clear Lake, Calif., labeled the "Fork fire," on Aug. 22. At the bottom of the image is Indian Valley Reservoir. The fire, which at one time encompassed 80,000 acres, has been brought under control partially because of NASA's help.

NASA aids California firefighters

NASA engineers are working with the California Department of Forestry to make the latest in NASA high-tech information technologies readily available to California fire fighters in their efforts to control the state's wildfires.

The experimental program involves the use of an ER-2 aircraft to provide fire fighting personnel in the field with immediate access to real-time imagery using inexpensive off-the-shelf hardware and the Internet. The aircraft, based at Ames Research Center, flies over a target fire at a height of approximately 60,000 feet equipped with sensors that provide imagery in natural color, color infrared and the thermal region. The imagery yields valuable up-to-the-minute information on fire boundaries, hot spots and fire activity.

"From a preliminary review of the images, they allow us to see fires from a perspective that we just don't have on the ground," said Richard Schell, deputy chief of operations support for the CDF's Fire Protection Headquarters section. "Using the thermal imagery, we can see through the smoke, we can view inaccessible areas, we can see old burns, active fires, boundaries and hot spots, and we can view it all in real time. We are always looking for another way to view the fire situation," he said. "This gives us a valuable new weapon in our fire-fighting toolbox."

The ER-2 and other NASA aircraft have assisted with fire information activities and engaged in experimental fire fighting programs in the past. The difference on this occasion is that the high altitude ER-2 is

equipped with the latest in communication technologies, a Satellite Telemetry and Return Link (STARLink) system, that relays the information in real time back to anyone with Internet access. In this way, firefighting personnel, even those in the most inaccessible locations, can get a precise, up-to-the-minute picture of fire activity, location and spread.

On Aug. 22, the ER-2 aircraft conducted the first successful operational demonstration of the new STARLink system. The vehicle flew over the Fork fire region near Clear Lake, Calif., where an active wildfire had consumed almost 80,000 acres. For the first time, CDF personnel were able to view the fire imagery as it was collected—both at their remote Incident Command Center and at various headquarters and intelligence facilities around the state. They were tremendously impressed with the quality and timeliness of the imagery, and excited about the implications of this technology for strategic fire management.

"For the first time, we were able to pull it all together," said John Arvesen, Chief of the High Altitude Missions Branch at Ames. "The flight and the overall system were successful beyond our wildest expectations."

Access to information about the ER-2 experimental fire fighting program and the STARLink system are available via the Internet at the following Internet address:

<http://hawkeye.arc.nasa.gov>

This site also has a complete record of all imagery recorded on the recent ER-2 flights.

JSC inks new policy on use of information technology, computers

JSC's Human Resources Office this week released a new center Policy on the Use of NASA Information Technology Resources that provides employees with guidance on how to best use these important tools and how to best avoid misuse.

Information Technology (I/T) devices such as computers, networks, electronic mail, computer fax and other electronic information transfer devices that have become increasingly important tools for communication, research, and other work at JSC, the policy states. Employees and contractors are encouraged to continue to learn about and use these valuable assets to help accomplish their work but are cautioned that, like all other forms of government property, JSC I/T resources are provided only for official business.

The official policy announcement (JSCA96-072), includes overall direction on the use of I/T, such as:

- Use common sense and good judgment when using the Internet. This resource is provided only for official business. When you use the Internet, you leave an electronic "footprint" wherever you go. Any message you send is electronically signed by you and placed in an "electronic envelope" with NASA's name on it. On the Internet, you are NASA.

- Never use your computer to receive, store, display or transmit sexually explicit images, messages, or cartoons, or send messages that contain ethnic slurs, racial epithets, or anything that may be construed as a threat, harassment, or disparagement of others.

- Protect JSC computer resources: Change your password periodically and never share it with anyone. Prevent the spread of computer viruses by always checking diskettes and downloaded software for viruses before executing them on a JSC computer system.

- Although JSC I/T is to be used for official NASA business, there is an exception for infrequent personal use. Specifically, when communications cannot reasonably be made during non-business hours, employees may send and receive brief messages with a spouse or dependent. The same applies to communications with local government agencies, physicians or dentists; or for emergency situations such as critical repairs to a residence or vehicle.

- There is no personal expectation of privacy. Information in JSC computers may be reviewed by managers, supervisors, and other authorized individuals at any time. Additionally, Internet activity at JSC is recorded and periodically examined for security and policy compliance purposes.

- Like other forms of misconduct, misuse of JSC I/T resources is grounds for disciplinary action.

For additional information, contact your supervisor, your Human Resources representative at x36251, the Chief Information Officer at x32700, or the JSC Computer Security Manager at x37615.

JSC pays travel money with electronic transfers

Many JSC employees already receive their paychecks by electronic fund transfers, and now that method of money movement is being extended to official government travel.

The move to electronic transfers took effect in July in accordance with the President's signing of the Debt Collection Improvement Act of 1996. This act mandates the use of electronic funds transfer for all federal payments, including travel and expense reimbursements.

John Beall, deputy Chief Financial Officer for finance, said his organization is asking JSC employees to provide a financial institution and account information where they can receive electronic payments for travel and expense reimbursements.

To make this happen, employees should complete the "Electronic Funds Transfer Form For Travel and Expense Reimbursement" and return it no later than Sept. 10 to the LF341/Travel Claims. If this form is not submitted, employees who receive reimbursements will have them sent to the same institution and account specified in their payroll information.

Employees who do not have a bank account may request a waiver by certifying, in writing, to LF/Deputy Chief Financial Officer for Finance, that they do not have an account. For more information regarding EFT call Deborah Conder at x35805.

Survey seeks employee opinions

(Continued from Page 1)

munication throughout the agency. The results obtained from the 1996 survey responses will be available on the Internet at: <http://www.hq.nasa.gov/office/codez/cip.html>

The 1996 survey packets, containing a cover letter discussing the survey's importance and objectives, the survey form and a pre-addressed return envelope, were delivered last week. The survey takes 10-15 minutes to fill out, and is designed to ensure that individual

employees responding to the survey cannot be identified. This year, 7,405 employees are being randomly selected from the agency's personnel records as maintained in the Personnel Management Information System. The sample size has been calibrated to provide statistically valid results at both the center level and the agency level with a response rate of 55 percent. However, the higher the response rate, the more accurate the results will be concerning the views of the workforce.

Space News Roundup

The Roundup is an official publication of the National Aeronautics and Space Administration, Lyndon B. Johnson Space Center, Houston, Texas, and is published every Friday by the Public Affairs Office for all space center employees.